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11 July 1955

MEMORANDUM FOR: THE RECORD

SUBJECT: Trials of Infrared Equipment for Night Landing

1. Time and Place: 5 July 1955, Quantico, Virginia, HMX-12. Attendance: Lt. Billy R. Green USMC
Lt. Col. Percy USMC, CO/HMX-1

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3. Purpose: To make further attempts for night landings with the use of infrared equipment.4. Discussion:

a. Since our last visit to Quantico, Lt. Green had run some modifications on the light source. He had defocussed it, beefed up the wiring to accommodate a current drain caused by use of the 2500 watt bulb. He had also procured 2 AN/SAR-4X's. By interchanging lenses in the AN/SAR-4X, he had a constant field-of-vision that he deemed appropriate. However, its magnification power was approximately 1.2 x 1. Before any further actual attempts were made at landing the Sikorski HRS-5, a discussion was held among all persons present. Apparently, Col. Percy had read the Test Report of the Marine Corps Equipment Board, under project no. 747, entitled, Infrared Equipment for Land Force Use, dated 8 April 1952. He seemed to be somewhat sceptical of the possibilities of using infrared viewers to land a helicopter with. After the discussion, Lt. Green and [] carrying [] luggage in the passenger compartment, made five attempts at landing in a space approximately 50 feet square. The procedure was as follows:

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Lt. Green piloted the helicopter with [] talking him down. In these five attempts, all were successful; however, it was noted that the small magnification of the viewer was an undesirable feature. It was decided to have a meeting the 13th or 14th of July for the purpose of describing specifically the improvements that would be necessary to make the use of infrared feasible for night landing.

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5. Conclusions:

a. It has been proved that it is possible to land a helicopter using an infrared viewer.

b. Desirable

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b. Desirable changes in existing equipment would be:

(1) A light that is capable of illuminating a constant area and is also capable of producing a beam candle power of 14 million cp for narrow beam use.

(2) A binocular type viewer, whose image is much closer to the eye than is currently available, incorporated in this viewer should have resolution as great as can be achieved using an optical system which has a 1:1 ratio. Field of view should also be as great as possible without serious distortion. It is believed that it will be unnecessary and even undesirable to have this viewer head-mounted. The power supply for said viewer should either be small dry cells or preferably 24 volts dc.

6. Actions: APD

a. Propose initiation of a project, the end product to be the accomplishment of landing helicopters and possibly fixed-wing aircraft by the use of infrared equipment.




TSS/APD

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Distribution:

Orig. - P-60B ✓

- 1 - 
- 1 - RTW
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